

Suisun Marsh Compliance and Monitoring Stations Metadata

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I. Contact Information

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II. Study Mandate and Objectives

Suisun Marsh channel water salinity standards, specified for a compliance period of October 1 through May 31 of the following year, were mandated by the SWRCB Order WR 95-6. Standards vary according to month and water year type. Four of these compliance sites, National Steel (S-64), Beldons Landing (S-49), Sunrise (S-21), and Volanti (S-42) are located within the marsh. The fifth, Collinsville (C-2), is located in the western Delta. Two additional monitoring stations identified in SWRCB Order WR 2000-02, Morrow Island (S-35) and Ibis duck club (S-97), are also located within the marsh. Data are also available from the eleven other water quality monitoring stations operated within the marsh but are not part of the D-1641 monitoring stations, and are available from the Suisun Marsh monitoring program upon request.

Water quality compliance is determined by comparing monthly standards for channel water specific conductance with the mean monthly high tide specific conductance measured at each compliance location. Specific conductance is a measure of the charged particle composition of water (the water's electrical conductivity) standardized to 298 Kelvin and one atmosphere of pressure. Specific conductance is therefore an indirect, but reliable measure of salinity concentration. Specific conductance was chosen as a measure of salinity because continuous monitoring equipment for actual salinity concentration is less reliable.

A progressive mean of the specific conductance at high tide is calculated for each month by averaging the current daily mean specific conductance at high tide with the daily means observed on all previous days of the month. Measurement of daily progressive means restarts at the beginning of each month. For example, the mean monthly specific conductance at high tide equals the progressive daily mean of the specific conductance at high tide calculated from the first through the last day of each month.

III. Methods

Time series data about specific conductance, tidal stage, temperature, or all were collected at 15- minute intervals using data recorders consisting of data loggers (DL-800). Data recorders were housed in secure units, protecting them from vandalism and the elements. Tidal stage measuring equipment was housed in closed float well systems anchored within the channel.

Specific conductance and tidal stage data from stations S-49, S-21, S-42, S-35, and S-71 are telemetered hourly by DWR to the California Data Exchange Center (CDEC) in Sacramento where they were made available to the public as preliminary data. The USBR also telemetered hourly specific conductance and tidal stage data from station C-2 to CDEC.

Continuously recorded data are downloaded weekly from the data recorders onto a laptop and brought to the office for analysis, summary, and permanent storage. Data about operational checks on the monitoring equipment and calibration materials were also collected during each visit for data quality assurance and control (QA/QC). Data collection and telemetry equipment were checked for proper functioning twice weekly during the compliance season and once weekly during the non-compliance period (1 June through 30 September).

In the past, specific conductance and tidal stage data were stored as Statistical Analysis Software (SAS) files after being analyzed by a series of programmed QA/QC checks in addition to visual inspection. From 1990 and on, the data are stored into an ACCESS database upon passing QA/QC. These same data have also been exported to the Bay-Delta and Tributary program file server where they are available at Internet address <http://www.bdat.water.ca.gov>.